A SYSTEM AND METHOD FOR DYNAMICALLY CONSTRUCTING PACKET CLASSIFICATION RULES

ABSTRACT OF THE DISCLOSURE

A system and method classifies packets with a programmably fixed network processor program and dynamically updated data structures. The network
5 processor program selects predetermined packet field values of the packets transmitted across the network and classifies the packets by matching one or more packet field values with a data structure. New packet classifications are dynamically created by updating the
10 data structure to associate one or more predetermined packet field values with the new packet classification. For instance, a parse tree program extracts packet header information and matches the packet header information to the data structure. A pattern tree data structure
15 provides longest prefix matches and an ordered tree data structure provides combination matches so that classification of arbitrary Boolean combinations of extracted header fields can be formed.

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